of the gas, as well as the air, be 1,200°, a preheating which may practically be well endured without harm by all furnaces and heating gases,

INFLUENCE OF THE QUALITY OF TTTK GAS ON THE UTILISATION OF HEAT IN THE COMBUSTION CITAMBNU.

In order to show the influence of the quality of tho gas and the amounts of heat which may bo given off in the combustion chamber the Tables J (on p. 118) have been calculated. The moclo of calculation is, without anything further, clear, and therefore only the suppositions which norvo as bases require comment. The amount of air for combustion has been taken throughout at 1*8 times that of tho theoretical quantity for tho raw fuel. It has been assumed that tho ga« and air were preheated to l,200n and the gases worn drawn off from the combustion chamber at 1,700*', and combustion therein as having taken place completely.

First, let air-gas be considered in different degrees of purity.

With the best air-gas the maximum amount of boat which can be uniformly averaged in the combustion chamber in 2/261 calories, whilst an air-gas which has been manufactured , j || with a 20 per cent, excess of air goes down to half. With *• * 40 per cent, excess of air in the producer and preheating of tho gas and air to 1,200°, steel melting would become an impossibility.

The influence of tho addition of steam to air for gasification is shown in Table K., p. 120. One sees that the maximum amount of heal from 1 kilogramme C which can be placed at disposal of the combustion chamber is tho greater the more H contained in the gan. This nevertheless attains its limit if the Jl production w i driven BO far that CO-j formation must remilt, since in thin j'| ease a diminution of the useful effect makes its appearance. This phenomenon is clear in respect to the pure waler-ganen (compare column 2 against 1), although these gases do not come actually into the question for open-hearth furnace*, working. Still more clearly one sees thin from the next to |J the last column, for steam-air gas which is regarded an